

# COAL MINING

AUGUST, 1952

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VOLUME 29, No. 8

**SEEING IS BELIEVING!**  
if it's a big job,  
the equipment is from  
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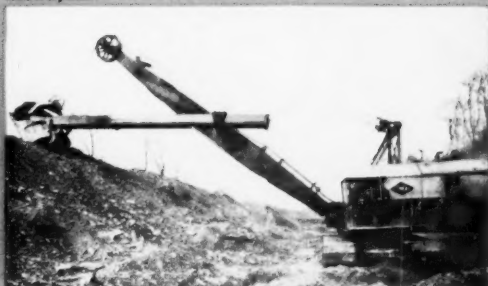
Lima 1201 is in daily use at L. W. OVERLY's strip job, Smithton.



Allis-Chalmers BD-3 Grader builds roads at RIVER HILL COAL CO., Keewardin.



Allis-Chalmers HD-20, the world's finest tractor, on S B & S COAL CO. job, Fairchance.



Lima 1201 used by SERVANTI COAL CO., Waltersburg.

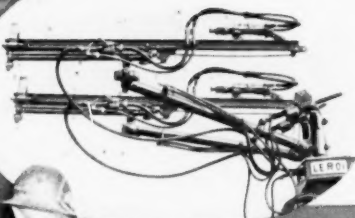
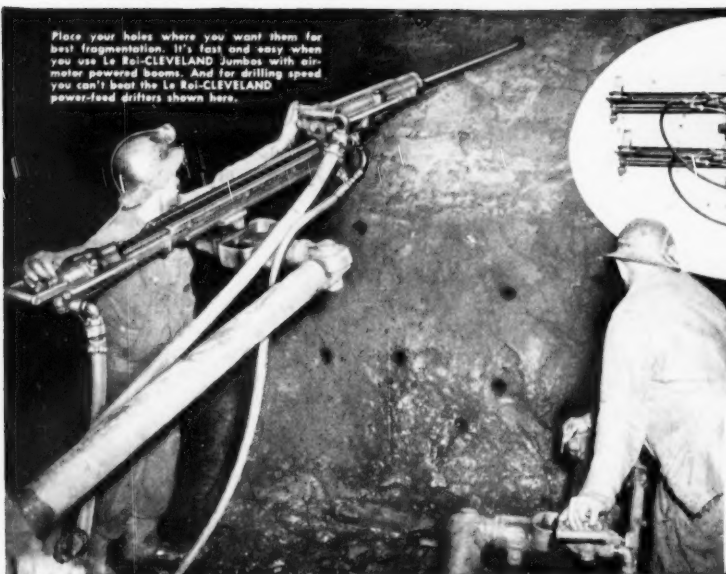
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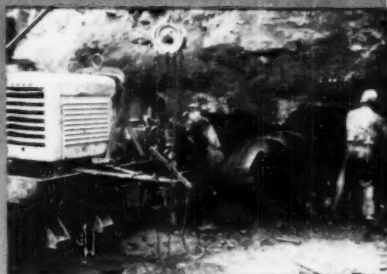


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102 feet back in the mountain. A three-man crew can produce 90 tons of clean coal in an eight-hour shift, a portable conveyor being used to load the coal into trucks. Grant has two such drilling outfits at work near Edwight. Rish Equipment Company, McCarthy drill distributor in the two Virginias, has sold sixty drills for this unusual method of coal mining.

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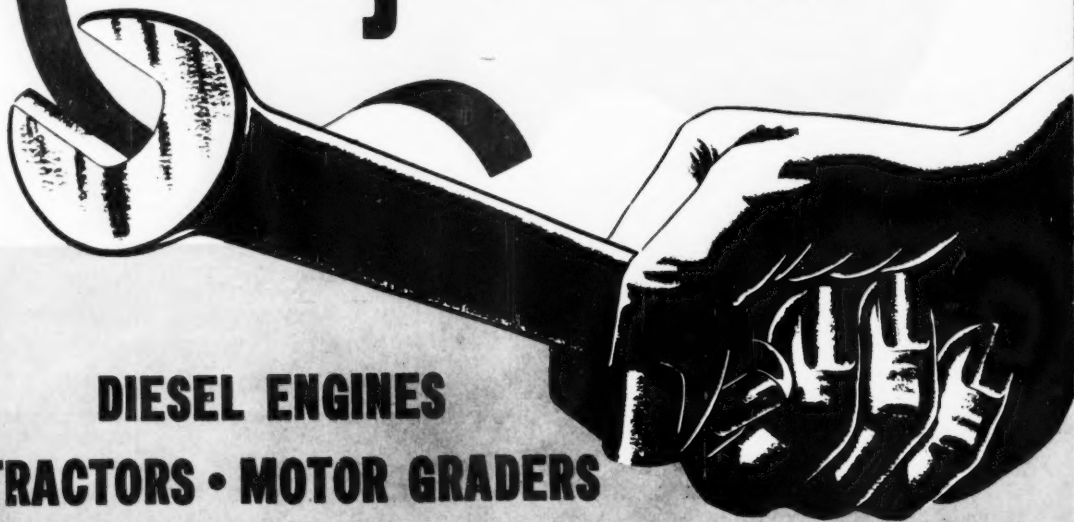
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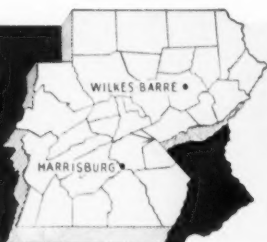
The A. A. Loesch Construction Co. of Abington, Pa., is using this "Caterpillar" Diesel D4 Tractor, equipped with a No. 1A Bulldozer, in clearing land on Camp Starlight, a summer camp near Starlight, Pa. The work-power and traction needed for these operations are furnished easily by the D4.

By doing work faster and cheaper, the D2 has given tractor satisfaction to thousands of owners. Here the "Caterpillar" Diesel D2 Tractor, equipped with a No. 2A Bulldozer, is feeding reclaimed "bank" coal on operations near Boston Run, Pa., for Michael Stefero of Gilberton, Pa.

Known as "Concentrated power in small packages" the "Caterpillar" D4 and D2 Diesel Tractors have earned a place beside their big brothers in popularity on many jobs. The money-making ability of these two smaller sizes is not being overlooked by Tractor users. Many jobs that were formerly reserved for larger tractors are now being handled by D2's and D4's.

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# MINING

Vol. XXIX August, 1952 No. 8

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## Do You Know?

• A materialistic world hypothesis which tries to explain why people "do good" and other spiritual values on the basis of scientific findings is manifestly inadequate, Harvard President James B. Conant declared.

Giving the last of four Bampton Lectures at Columbia University, Dr. Conant spoke on "Science and Spiritual Values."

A materialistic conceptional scheme which attempts to account for everything in the whole universe, said Dr. Conant, is unsatisfactory because it is incomplete.

"It fails to provide for the altruistic and idealistic side of human nature," he went on. "It fails to accommodate what I regard as highly significant facts, not facts of science but facts of human history. These are the unselfish ways in which human beings often act, compassion, love, friendliness, self sacrifice, the desire to mitigate human suffering. In short it is the problem of 'good' not 'evil' that requires some other formulation of human personality than that provided by the usual naturalistic moralist."

Scientific theories, Dr. Conant said, are restricted policies, not parts of a unified cosmic creed. When a scientist steps out of his laboratory and takes part in activities other than research, he must be a believer.

Dr. Conant said that there are minimal commitments that are required by a modern man to construct his philosophy of life if he be neither a religious dogmatist nor a materialistic atheist. Two parts of that commitment, he declared, are that there is a sharp cleavage between animal behavior and human conduct, and that the possibility may exist that the states of mind as well as the overt actions of some people have a relation to some large pattern of events.

• All-glass paper, a new product composed entirely of glass fibers with nothing added, has been developed at the National Bureau of Standards. It has several possible applications, an important one being as an air filter paper in gas masks.

It is the first all-glass paper ever made, Bureau officials state. In it commercially available fine glass fibers were used. This raw material was mixed with water and formed into continuous sheets on the semicommercial paper-making machine in use at the Bureau. A number of special problems had to be solved, however, before a paper with satisfactory strength and characteristics was obtained.

This all-glass paper seems particularly suitable for use as filters in gas masks and respirators used by fire fighters, industrial and medical workers and military personnel. In gas-mask tests in a smoke-filled room only one smoke particle in 100,000 passed through it. Another important advantage of the new product is its high resistance to the effects of heat, moisture, chemicals and micro-organisms.

The development of this paper was a joint project of the Bureau of Standards and the Naval Research Laboratory. The scientists of the Bureau responsible for it are M. J. O'Leary, J. K. Missimer, J. J. Erving, and B. W. Scribner. The Navy scientists are T. D. Callinan and R. T. Lucas.

## Here and There in the Coal Industry

• New Superintendent of Republic Steel Corporation's Indianola coal mine at Indianola, Pa., is Charles L. O'Brien, a veteran of 28 years' service in various mine supervisory assignments. Mr. O'Brien's appointment has been announced by Mr. J. H. Reitz, manager of Republic's Northern Coal Mines District.

A native of Oliver, Pa., Mr. O'Brien has been with Republic since September, 1940, when he joined the company as assistant mine foreman. He has served in the capacity of mine foreman since August, 1944, and at the Indianola Mine since December, 1946.

Before joining Republic, Mr. O'Brien was employed for 16 years by the W. J. Rainey Company, where he served for 13 years as assistant mine foreman, and for three years as mine foreman.

Mr. O'Brien is married and the father of three children, Alma, Charles, and Janet. He attended grade school in Oliver and the North Union Township High School. He also studied for one year at the Douglas Business College and for three years he attended mining school at Uniontown.

Earlier this year Mr. O'Brien received a certificate of honor from the Joseph A. Holmes Safety Association for supervising an underground crew of 28 men for 1087 consecutive days without a lost time accident. The period covered totalled 339,868 man-hours.

• At the recent annual meeting of the Big Sandy-Elkhorn Coal Operators Association, the following officers were elected: B. F. Reed, Chairman of the Board S. M. Cassidy, President; W. D. Goldsmith, Vice President; J. R. Hurt, Treasurer; H. S. Homan, Executive Secretary.

The Association's new Board of Directors is comprised of Messrs. H. K. English, C. M. Caudill, S. M. Cassidy, G. O. Tarleton, A. P. Boxley, W. W. Goldsmith, Edgar Dale, George E. Evans Jr., J. J. Foster, David L. Francis, Joseph Harris, Harry Laviers, Virgil D. Picklesimer, A. H. Mandt, B. F. Reed, J. P. Hurt, J. E. Bowman and R. A. Hedland.

• Bituminous Coal Research, Inc., has announced the sale to the Le Roi Co., Milwaukee, Wisconsin, of the rights to manufacture and market the continuous mining machine developed under the Mining Development Program of Bituminous Coal Research, Inc., the national research agency of the bituminous coal industry.

The Le Roi Company plans extensive further development of the continuous mining machine prior to commercial sale. The further development, design, and manufacture of the continuous mining machine will be done at the Le Roi plants at Cleveland and Greenwich, Ohio.

Mining research, according to an announcement today by Dr. A. A. Potter, president of Bituminous Coal Research, Inc., will be continued by BCR in order to develop new and improved equipment and methods of bituminous coal mining. This decision was reached on the recommendation of the Mining Development Committee at a meeting of the sponsors yesterday in Huntington, West Va.

• J. M. Malloy of Oklahoma was elected President of the Mine Inspectors Institute of America at the Annual Convention held at Wilkes-Barre, Pa. June 9-10-11.

• The annual meeting of the Coal Producers Association of Washington was held in Seattle, Wash. on June 10. Officers of the association elected included Harry Patrick, president; Fred Bianco, vice president; and Earl R. McMillan, John H. Morris and William Strain, trustees. Ralph Clark is secretary of the group.

• James R. Hurt, age 59, retired Prestonburg, Ky., coal operator, died. Mr. Hurt was a native of Tazewell, Va., and moved to Prestonburg in 1930 to become associated with the predecessor of the Sandy Valley Coal Co. and then with that company in 1932 as Secretary-Treasurer. He was a charter member of the Big Sandy-Elkhorn Coal Operators Association, its Treasurer for a time, and was very active in its work as a member of man committees, also holding many other business and civic interests. Mr. Hurt retired from the coal industry in 1949.



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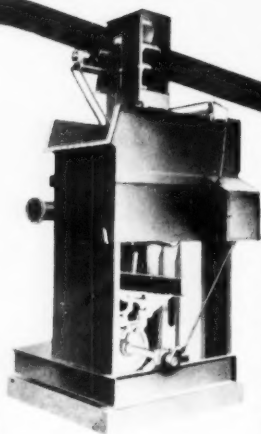
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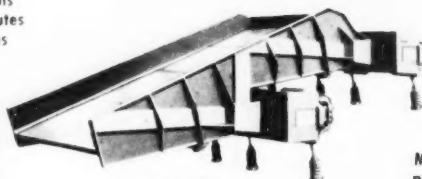
# COAL PREPARATION EQUIPMENT



Shown is a Jeffrey one-compartment Diaphragm Jig with 25 square feet of screen area.

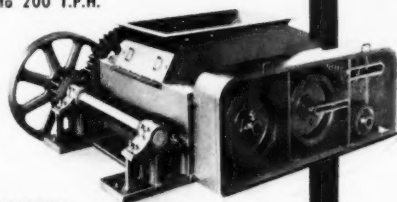
Jeffrey Baum and Diaphragm JIGS represent the most effective high-capacity mechanical coal cleaning units on the market today. Proved design—carefully engineered—no pre-sizing necessary. Single or multiple compartments. Air-operated Baum Jigs—for capacities up to 700 T.P.H. Diaphragm Jigs—for capacities up to 200 T.P.H. Also Unit Washers for washing up to 200 T.P.H. Catalog No. 815.

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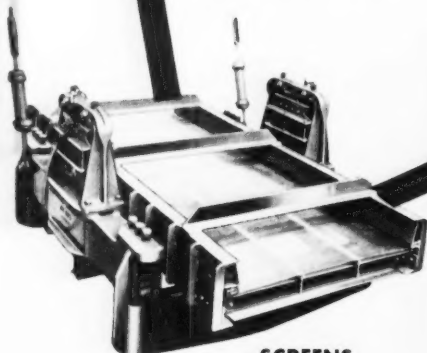
Electric vibrating units for providing absolute control over tonnage handled. Various types and sizes with a wide range of capacities. Used for feeding crushers, belts, jigs, etc. Also mechanical feeders, bucket elevators and conveyors. Catalog No. 830.



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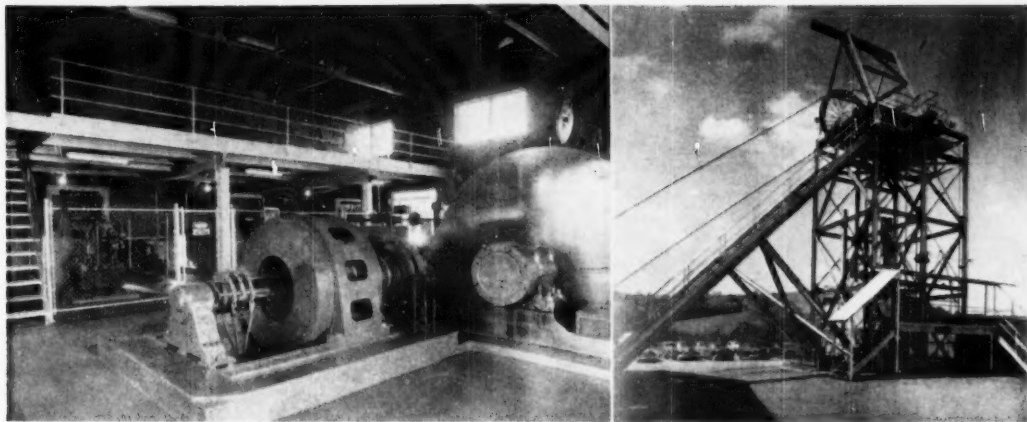
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THE KILBOURNE & JACOBS MFG. CO., Columbus, O.  
THE OHIO MALLEABLE IRON CO., Columbus, O.



Above hoisting engine room, and, right shaft head frame at the Kefover shaft.

## Kefover Man Portal, Vesta-Shannopin Division of the Jones & Laughlin Steel Corporation

The Kefover man portal, Vesta Shannopin Division of the Jones & Laughlin Steel Corporation is located in Washington County, Pennsylvania, near the community of Beallsville.

The portal consists of hoist house, hoist, bath house, mine officials' offices, first aid room and emergency hospital and mine doc-

tor's office. The hoist house and hoisting equipment is located about 50 feet from the bath house and is modern in every respect.

The building housing the miners' and officials' bath and change room is 68 feet 4 inches wide, 98 feet 10 inches long and 15 feet 10½ inches high, exclusive of the boiler room. This building is fireproof

with concrete slab roof—a similar bath house, built later, has steel deck roof.

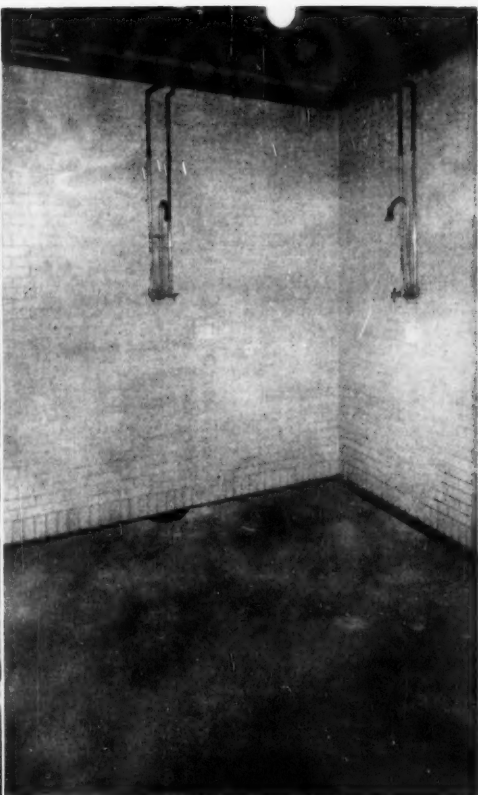
The miners' bath house consists of two miners' change rooms, each 22½ feet wide and 97 feet 6 inches long. Each miners' change room has 316 clothes baskets and 10 wooden benches. A miners' shower room 55 feet long, has 30 shower heads



Over-all outside view of the miners bath and lamp houses.



One of the miners locker rooms.



The mine foreman's showers.

and can be entered from either of the change rooms. A toilet room has 3 commodes and 60 inch urinal.

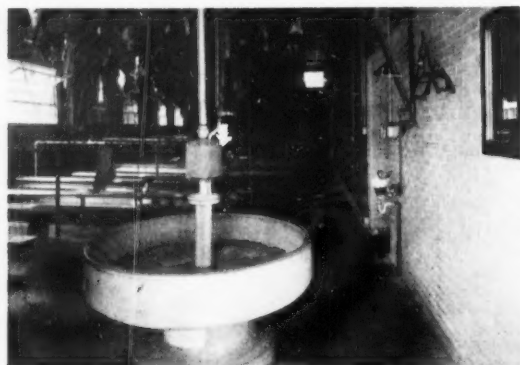
The foremen's change room is 42 feet long by 10 feet wide and has 54 steel lockers. The foremen's

shower room is 10 feet wide by 11 feet 6 inches long, has 6 shower heads, 2 commodes and individual urinals. All three of the rooms have wash fountains.

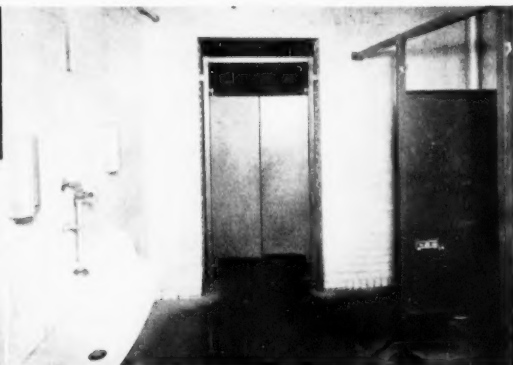
Heating and ventilating of miners' change rooms is by large ca-

capacity unit heaters. Miners' shower room is heated by ceiling radiators. The two large miners' change rooms have roof ventilators and heated air is exhausted through the roof ventilators.

Hot water for the showers is

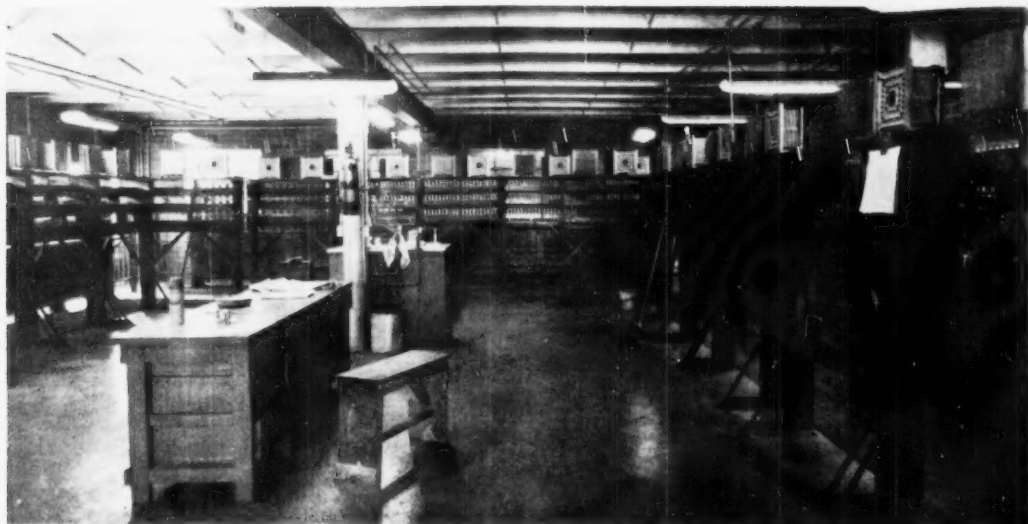


One of the wash stands in the miners locker room.



Urinal room in the miners bath house.





Miners lamp room. Note lamp racks along the outside walls.

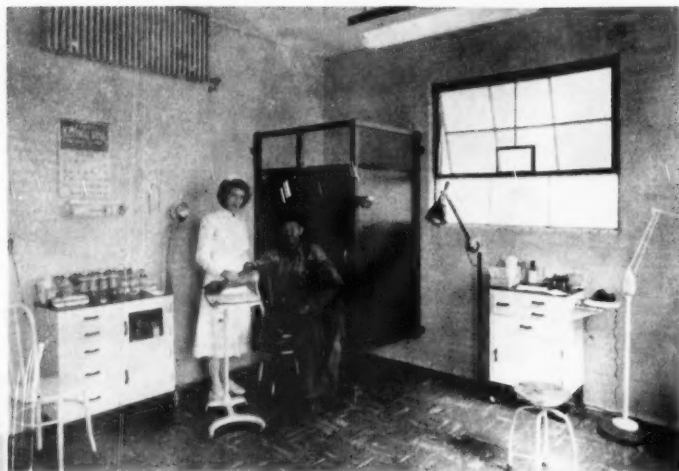
furnished from a 4,000 gallon tank, provided by steam water heater. Heating of the building in winter and of the water for showers is by a coal fired boiler.

Water supply comes from a 250 feet deep well pump which supplies about 12,000 gallons of fresh water each working day. Toilet sewage goes to septic tanks. Shower and floor water goes to a grease trap. Discharge from baths is filtered through a 40 feet by 40 feet sand filter. Storm water is handled separately.

The lamp house is a one-story tile building which has been added to the bath house. This building houses the lamps, the assistant foremen's room, the mine foremen's office and the mine superintendent's office. The first aid room and doctor's office are also in this newer building. This building is 71 feet long by 65 feet 4 inches wide. The lamp room is 70 feet long by 38 feet 4 inches wide, holds 1920 Edison electric cap lamps and several hundred safety lamps. Lamp cases and lamp changing racks are arranged in quadruple, with working area on the inside. Isles are provided along the outside walls for one way traffic to avoid confusion.



Safety lamp room.



Nurse attending injured miner in emergency hospital room.



Mine electricians quarters at bottom of the shaft. Each electrician has his own tool locker.

Emergency machine parts room at the bottom of the shaft.



Lamp house is self service from transfer cases. Lamp house attendant puts lamps into the charging rack and returns them to the transfer cases.

The assistant foremen's room is 85 feet by 25 feet. Tables are provided for 60 foremen. Adequate space is provided to hold mine maps. The mine foremen's and the mine superintendent's offices are 12 feet by 12 feet and are adjoining. The first aid room is 16 feet 4 inches by 14 feet.

● From the 5,000 Corporation annual reports for 1951 rated in the Twelfth Annual Survey, eighteen coal and coke companies are being cited with "Merit Award" certificates by Weston Smith, director of the Annual Report Survey for "Financial World," which will celebrate its Golden Anniversary for fifty years of service on October 1, 1952.

Coal & Coke: Ayrshire Collieries Corp., Clinchfield Coal, Dominion Coal, Ltd., Glen Alden Coal Co., Hudson Coal Company, Island Creek Coal, Lehigh Coal & Navig., Old Ben Coal, Peabody Coal Co., Pennsylvania Coal & Coke, Phil. & Reading Coal, Pittsburgh Cons. Coal, Pittston Company, Pond Creek Pocahontas, Truax-Traer Co., United Elec. Coal Cos., West Kentucky Coal, W. Virginia Coal & Coke.

The stockholder reports of these companies thus have become candidates for the final judging, and one will be selected for a "Best of Industry" award and presented with a bronze "Oscar of Industry" at the Financial World Annual Report Awards Banquet on Tuesday, October 28, 1952, in the Grand Ballroom of the Hotel Statler in New York. A year ago the 1950 annual report of Pittsburgh Consolidation Coal Company won the trophy for the best report in this industrial classification.

The chairman of the independent board of judges in this year's competition is Dr. Carman G. Blough, C.P.A., research director of the American Institute of Accountants. He is assisted by Dr. Pierre R. Brevet, editor of *The Analysts Journal*; Denny Griswold, publisher of *Public Relations News*; Elmer C. Walzer, financial editor of the *United Press*; Richard W. Lambourne, president of the National Federation of Financial Analysts Societies, and Hollis Holland, national authority on typography and calligraphy and a member of the faculty of Columbia University.



Left: John Barlow, Duquesne Light Co.; H. John Harper, General Manager Mines Eastern Gas & Fuel Associates; Syd Gane, S. E. Gane & Co.; Frank Volka, Duquesne Light Co.



Leroy Collier, Consumers Mining Co.; Don Burke and Al Siebert, Erico Products, Inc.; Albert Episak, Machinist, Allegheny Pittsburgh Coal Co.

## Harwick Branch of the Electro-Mechanical Mining and Maintenance Association Meets

The Harwick Branch of the Electro-Mechanical Mining and Maintenance Association heard a discussion about Cadweld Mine Machine Cable connection for in-line and staggered 2-conductor type W, twin type G or W, and 3 conductor type W cables, presented

by Don Burke and Ed Siebert of Erico Products, Cleveland, Ohio, and arranged for by S. E. Gane & Co. of Pittsburgh, Pa. This discussion was similar to one on the same subject presented at the Carmichaels, Pa., meeting of this association and published in full in the

June 1951 issue of COAL MINING.

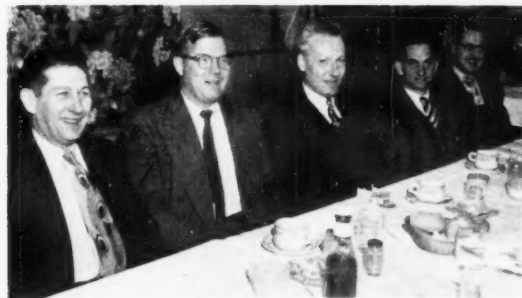
A new four page folder descriptive of this method of making connections has just been printed and can be had by writing Erico Products, 2070 East 61 Place, Cleveland 3, Ohio.



Left: R. E. Shaw, Master Mechanic; Lawrence Husar, Mine Mechanic and Frank Galone, Bonder, and Ernest Bozich, Bonder, all of the Consumers Mining Co.



Left: John T. Cox, Mechanic; Wm. C. Oldendorf, Mechanic and E. M. Daugherty, Mechanic, all of the Russellton Mine of the Republic Steel Corp.



Left: Henry Yanik, Machine Boss, Duquesne Light Co.; Red Pfeiffer, S. E. Gane Co.; E. C. Skinner, Ford Collieries Co.; Wm. A. Hixenbaugh and G. F. Strauss, Duquesne Light Co.



Geo. Stacey, Master Mechanic, Harwick Mine of the Duquesne Light Co., and president of the Cheswich Branch of the EMMA; Charles Hall, Store Room Clerk, Harwick Mines; C. A. Kirkpatrick, Master Mechanic Barking Mine; Bob Jones, S. E. Gane Co.; Albert Hanlek, Mechanic, Harwick Mine.

## Experimental Strip Mines Show No Stream Pollution

Mine acid pollution of streams in Pennsylvania caused by strip mines is being controlled experimentally according to an announcement by Dr. S. A. Bradley of Mellon Institute, Pittsburgh. Dr. Bradley emphasized that the work so far has been entirely experimental.

Dr. Bradley is senior fellow on the Fellowship on Mine Acid Drainage established at Mellon Institute in 1946 by the Pennsylvania Sanitary Water Board, and now supported jointly by the State and the coal industry. For a good part of the past six years the fellowship has been working on the problems of acid drainage from strip mines. A few principles of operation have been established by which the intelligent operator can, in most strippings of the sort found in this district, control acid drainage and, in fact, acid formation. Based upon these principles, the Sanitary Water Board has issued a number of special permits for experimental strippings on a commercial scale.

Each stripping presents its own geologic problem, but under typical conditions stripping can be done without stream contamination by following these simple rules. They also have the advantage of eliminating the need for complex and confusing regulations which would be necessary to cover all the many possible types of mines.

The sulphuric acid found in the drainage from so many mining op-

erations results from the action of air on sulphur-containing compounds which occur in and over coal beds. It may be found whenever coal measures are exposed to air, even when a highway or railroad cutting slices through a coal seam. The acid formation isn't complete without water and, of course, unless water carries it into a stream there is no pollution problem. It is impossible to keep all water out of a strip mine, but it may be controlled so that no acid is carried out of the pit.

The first rule is to keep surface water from the surrounding area out of the pit, usually by a simple ditch circling the mine on the uphill side. Spring water or seepage within the stripping can be ditched or piped directly outside.

Secondly, sulphur-bearing shale, rocks, and low-grade coal uncovered in stripping must be separated and kept out of the way of flowing water. The floor of the mine be kept clean, so machinery won't crush and spread the sulphur-bearing materials around where rain can soak out the acid.

Thirdly, while the mine is being back-filled, the segregated sulphur-carrying materials should be bulldozed against the foot of the "high wall" (the up-hill side of the cut), and covered with at least eight feet of hard-packed clay. Sometimes the amount of sulphur-bearing material is small enough that it can be

spread out over the floor of the cut, packed down by rolling, or by driving a tractor back and forth over it, and then covered with a layer of hard-packed clay before the cut is filled.

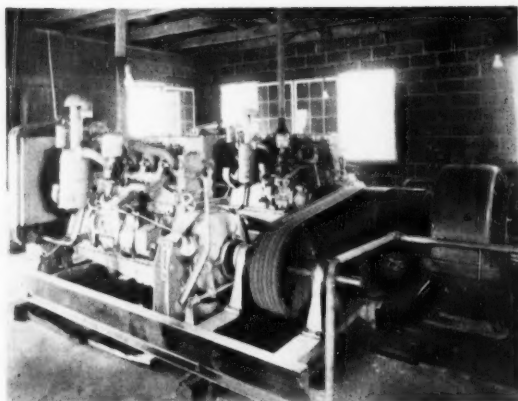
Then, with the back-fill being made against the high wall, it is smoothly sloped, so that rain and surface water will drain away fast without soaking in the ground or standing in pools. The fill should be built up against the high wall carefully, so that it will not slip down or away, leaving a crack into which run-off water can pour.

In some strippings, when the coal is quite deep, or below the water level of the surrounding country, back-filling may not be needed. The sulphur-bearing waste may be spread on the floor and covered with clay after which the mine is allowed to fill with water, which will effectively seal off the air. Once the acid which was actually produced during the mining is drained off, only clean water will flow from the mine, because no air can get to the sulphuric material to make more acid. This is the way many deep mines (vertical shaft mines) are found, and several Pennsylvania communities get their water supply from them.

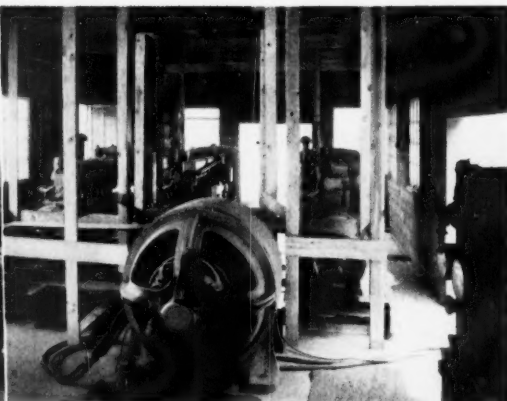
Dr. Bradley said that, with few exceptions, these principles can be followed in any of the Pennsylvania coal fields. A few cases had

(Continued on Page 17)

### Picture Review of Strip Mining



Two Caterpillar D-13,000 Diesel engines providing electric power for Mine Number 1 of the Ruthbell Coal Corporation, Kingwood, West Virginia.



Three Caterpillar D-13,000 Diesel engines provide electric power for Mine Number 2 of the Ruthbell Coal Corporation.



Two Caterpillar D-8 tractors pushing overburden off coal at the Tony Romane stripping operation near Matoka, West Virginia. The stripping shovel in background is powered by a D-13,000 caterpillar Diesel engine.



Caterpillar D-8 tractor with 8-A Bulldozer stripping coal at the Elkhorn operation of the Century Stripping Co., West Virginia.

This Lerain shovel at the Elkhorn, West Virginia operation of the Century Stripping Co.



Right: Lime Model 805 Shovel, driven by Caterpillar D-13,000 Diesel engine stripping coal at the Century Stripping Company near Elkhorn, West Virginia.



Below: Caterpillar D-7 Tractor, equipped with 7-A Bulldozer, stripping overburden at the Romano Brothers operation near Arista, W. Va.

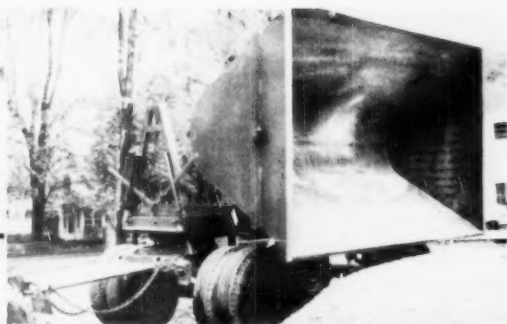


Right: Caterpillar D-8 tractor, equipped with 8-A Bulldozer stripping coal at the operation of United Coals, Inc., Enterprise, West Virginia.





Galion ROLL-OVER in upright position.



Galion ROLL-OVER in dump position.

• A new line of side dump truck bodies for heavy duty applications is announced by The Galion All-steel Body Co., Galion, Ohio.

Known by the descriptive name "ROLL-OVER", these are available in a wide variety of sizes and capacities.

Entirely mechanical in operation, Galion ROLL-OVERS dump to either right or left side, as desired. Bodies are of 10 gauge steel, can be mounted on all standard trailers, and will withstand the most severe service. The self-contained subframe consists of three heavy box type outrigger cross members. Front and rear riggers are built with a series of gear-like teeth which roll inside the formed channel tracks welded to the body. This construction locks the body in a stationary position and prevents forward or backward movement of the body on the subframe.

Main locking mechanism is a down-pull spring-loaded type plunger pin which engages in a socket built into an angle welded to the head of the body. Lock pin is actuated by a lever mounted to an A-type frame welded to the front of the subframe. Lever can be operated from either side of

body.

To effect dump operation, driver disengages the spring lock chain on the opposite side of the body to which load is to discharge, then releases plunger lock lever. Bodies can be righted manually or by a slight snaking movement of the truck.

ROLL-OVERS, according to the manufacturer, are perfectly adapted for a wide variety of material handling operations. They are particularly recommended for use on general construction pro-

jects, coal shipping, metal mining, quarrying, barge loading, stockpiling, etc. Other applications include the hauling of refuse, transportation of "fill," moving of any type of bulk material in large quantities.

In addition to their single unit use, ROLL-OVERS can be employed in "trains" by installing one or two bodies on a trailer, and a third or fourth on an attached dolly trailer. With the "train" system, more than 50 yards of material can be handled with one tractor.



Galion ROLL-OVER train with two 11 yard capacity ROLL-OVERS. Each ROLL-OVER is 12 ft. long. Body is 95 inches wide at top. Over-all height from top of chassis frame to top of body is approximately 65 inches. Weight with subframe, is approximately 3500 lbs.

### Experimental Strip Mines Show No Stream Pollution

(Continued from Page 14)

come up, he said, where the thickness of some of the sulphur-bearing formations was so great that it would be impossible to fulfill every rule so far established. "But," said Dr. Braley, "operation of a dry pit is possible in any strip, and so most of the stream contamination by any stripper is preventable now. The amount of acid carried out of any coal mining operation is closely proportional to the volume of water flow—high in wet weather and low

in dry weather. A working area where you don't get your feet wet won't pollute any stream."

The experimental strip mines have shown that any future legislation designed at protecting streams must be flexible rather than detailed and rigid. The general principles will work everywhere, but each mine presents a slightly different problem which can't be exactly prescribed far in advance. One operator was able to cut his back-filling expense in half by filling his strip in the shape of a shallow valley with a definite downward slope

throughout its length. The sulphuric material was buried under clay as usual, more than fifteen feet below the shallowest point of his "valley." Thus, the water runoff was rapidly down the length of the "valley" and out of the area with no time to soak in.

Although in the above-mentioned case, the cost of the more expensive method of back-filling would only have equalled the amount of the operator's bond, allowing him to use a more economical method actually achieved a more effective land restoration.

# PENN

## TELESCOPIC HOISTS STEEL DUMP BODIES



COMBINATION TYPE PENN BODY  
FOR COAL, STONE & OVERBURDEN



70 DEGREE ANGLE FOR  
QUICK, CLEAN DUMPING

MODEL 713 TWIN TELESCOPIC  
HOIST—UP TO 20 T. OTHERS  
TO 50 T.

**PENN BODY  
DIVISION  
HOCKENSMITH  
CORPORATION  
PENN, PA.**



**TELEPHONE: JEANNETTE 700  
or PITTSBURGH Electric 1-1242**





Femco Trolleyphones are widely used for mine locomotives.



For men at the controls in mills — Femco Trolleyphones provide low cost communication.

• Farmers Engineering and Manufacturing Company, specialists in electronic communication and control, has introduced the Femco Trolleyphone, plug-in model, 2550 series.

The Femco Trolleyphone is offered as "one of the simplest, most useful communication systems ever devised" for use in mines or mills. The new plug-in model has been made more compact, and vastly easier to install and service than all previous models of similar equipment. A common communication system, each station is equipped with a press-to-talk microphone and a clear speaker with automatic volume control. Words spoken with any microphone come out of all speakers at a natural voice level regardless of distance.

Equipment consists of transceiver units which incorporate both transmitters and receivers, speakers and microphones.

Transceiver units for the new model Femco Trolleyphone have been completely redesigned and simplified. Construction is strong and shock proof for dependability in heavy industrial use. New plug-in components make possible quick servicing when required with a minimum of down-time. Tubes and all sections are simply replaced with spares. Microphones and speakers plug in also, so that any parts may be returned to the maker for inspection and possible repair while equipment is in use. Tubes are inexpensive radio receiving tubes.

Power is taken from existing trolley wire or power line, either 250 or 550 volts DC. Current drain is about  $\frac{1}{2}$  ampere. Installation can also be made for 110 or 220 volt AC single or three phase, or from 6 to 40 volt batteries.

Advantages of use of Femco Trolleyphone systems include closer control and supervision over far flung areas; increased production

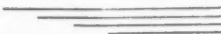
of ore, metals and manufactured products; savings in time and costs; improved morale, teamwork and safety.

A company bulletin describes the Femco Trolleyphone. Copies may be had by writing to Farmers Engineering and Manufacturing Company, 549 Brushton Avenue, Pittsburgh 21, Pennsylvania.



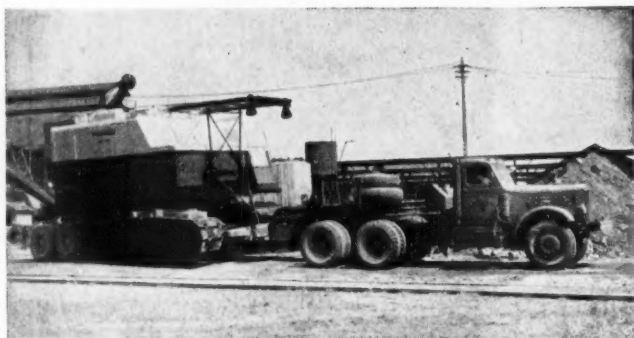
Femco Trolleyphone equipment consists of a compact transceiver with plug-in components, microphone and speaker.

## DRAGLINE BUCKETS

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## MOVERS of Coal Stripping and Contractor's Equipment



## HEAVY HAULING RIGGING

## MOORE-FLESHER HAULING CO.

MOVERS of Coal Stripping and Contractor's Equipment

### TWO LOCATIONS

Preble & Adams Sts., North Side, Pittsburgh 12, Pa.  
Phone ALlegheny 1-3600

and

Stoney Hollow Boulevard, Steubenville, Ohio, P. O. Box 547

• An aluminum-asbestos roof coating which is reputed to lower interior building temperatures 15 to 20 degrees F and permanently prevent roof deterioration is announced by The Monroe Company, Inc., Cleveland.

Known as ASBESTOLITE, the coating is made of first quality aluminum flakes and high grade asphalt and asbestos suspended in a waterproofing oil vehicle. According to the company, the doubly-pigmented aluminum flakes "leaf" over the top of the asphalt and asbestos, forming an attractive, firm, metallic shield which reflects hot sun rays, seals out moisture, and is impervious to rust, corrosion and fumes.

The manner in which ASBESTOLITE reflects heat and preserves roofs is clearly demonstrated by focusing rays of an infra-red heat lamp on a sample roofing slab. In this sample, one section is uncoated roofing paper, the second is coated with ordinary black roofing material and the third is treated with ASBESTOLITE. The first and second sections retain heat long after the ASBESTOLITE area is completely cooled.

Likewise, the ASBESTOLITE section shows no damage from the intense heat, while the other sections blister, melt and run. The Monroe Company, Inc., states that any roof, treated regularly with ASBESTOLITE, will never wear out.

ASBESTOLITE is highly fire retardant and can be applied to any type of roof. It is recommended for office and industrial buildings, hotels, dairy barns, and all applications where under-roof temperatures must be kept to a minimum. Ordinary black roof coatings, which absorb the sun's rays, are unsuitable for such uses.

Write for information to The Monroe Company, Inc., 10703 Quebec Avenue, Cleveland 6, Ohio.

• Addition of a new aluminum anti-rust paint to the PCA paint line is announced by Paint Corporation of America, Cleveland, Ohio.

Known as PCA-102 Aluminum, the new paint is made of doubly pigmented aluminum mixed with a clear vehicle. The latter is identical to PCA-101 which the company has sold for many years as a clear rust inhibitive. Because of its use of the clear anti-rust base, PCA-102 Aluminum can be applied easily and

quickly without any possibility of the base "bleeding" through. The latter is a common difficulty with many aluminum paints that utilize a black asphalt or bituminous base. According to the manufacturer, the clear base also gives PCA-102 a 10 percent brighter appearance than ordinary aluminum paints. It likewise permits better "leafing" of the aluminum flakes to form a moisture-proof coating.



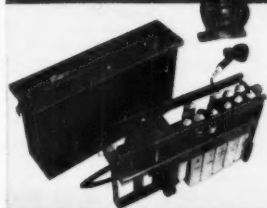
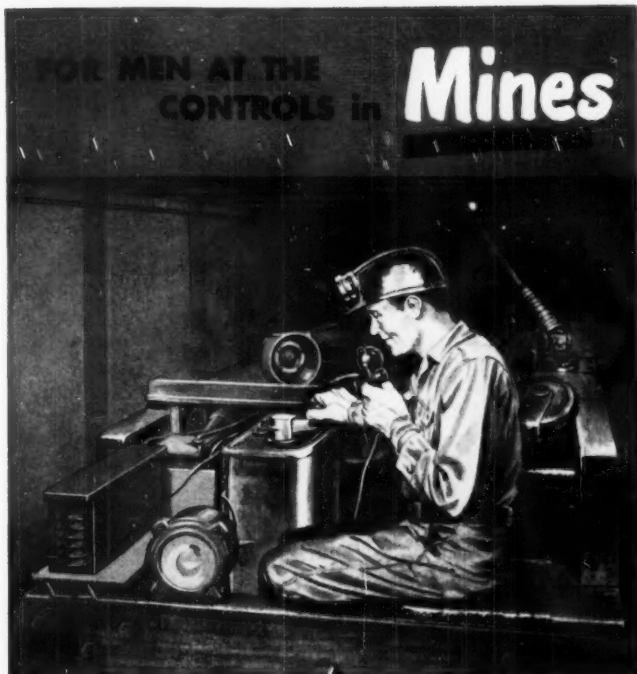
PCA-102 Aluminum can be applied by brush or spray right over rust without priming, scraping, wire brushing or sandblasting, the manufacturer states. It is reputed to penetrate rust layers and seal the base metal against further rust action, and is equally effective as a rust preventative when applied over any kind of new metal surface.

Write for information to Paint Corporation of America, Fidelity Building, Cleveland 14, Ohio.

• Expanded sales and service facilities for Euclid earthmoving equipment in the states of Wisconsin and Oklahoma have been announced by The Euclid Road Machinery Co. with the appointment of two new distributors.

Cunningham-Ortmayer Company of Milwaukee is the new Euclid distributor for the state of Wisconsin. Euclid will be represented in Oklahoma by the Butler-Sparks Equipment Co., with headquarters in Oklahoma City.

Cunningham-Ortmayer is one of the oldest and best known equipment distributor firms and maintains branches in Eau Claire and Green Bay. C. G. Ortmayer is President; H. J. Adams, Executive Vice



## TROLLEYPHONES GET THINGS DONE

Wherever there are trolley wires, installation of Femco Trolleyphones can speed production, cut costs, promote safety and improve work conditions. In underground haulage alone, Femco systems pay for themselves. Consider—all of your mine locomotives while moving or stationary, are in continuous contact with dispatcher and each other!

THE FEMCO TROLLEYPHONE IS ONE OF THE SIMPLEST, MOST USEFUL COMMUNICATION SYSTEMS EVER DEvised.

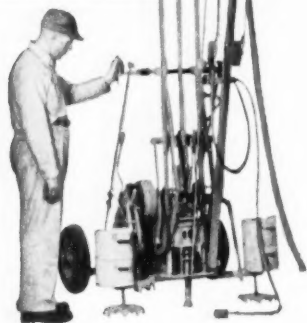
Demonstrations Arranged at No Charge  
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Let a Femco ENGINEER  
PROVIDE  
"YOUR VOICE OF ACTION"

FARMERS  
ENGINEERING  
& MANUFACTURING COMPANY

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**A ONE MAN  
DRILL FOR  
PROSPECTING  
and  
BLAST HOLE  
DRILLING!**



**THIS HOSSFELD ROCK DRILL**

with prospecting attachment will cut your drilling costs to as low as 30c per foot . . . give you accurate samplings to 70 feet deep.

It's a compact unit that can be moved into hard-to-get-at places.

- POWERFUL DIRECT DRIVE
- ONE MAN OPERATION
- ECONOMICAL

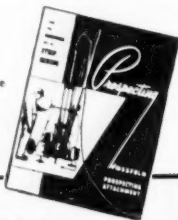
BLAST HOLE DRILLING can be done faster and better, too. Holes are full diameter all the way. Drills at any angle from vertical to horizontal.

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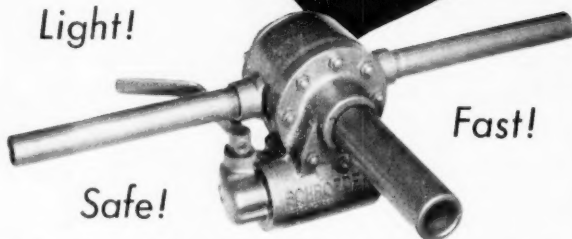
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here's the *New*  
**HYDRAULIC**  
hand-operated  
**SCHROEDER**  
*Coal Drill*

*Light!*

*Fast!*

*Safe!*



Powered from the hydraulic power system of standard mining equipment, the Schroeder 12-B Coal Drill provides plenty of power for fast drilling with complete operational safety—never any spark, kick, or shock—all electrical hazards are removed yards from the drill! Lightweight and dependable, its design simplicity and minimum of parts result in greatly reduced maintenance costs.

Write or call for details and demonstration.

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HYDRAULIC, ELECTRIC & PNEUMATIC MINING EQUIPMENT

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Be sure to investigate the long wearing features of ABC Brattice Cloth before you decide. Comparison tests prove ABC Brattice IS Your Best Brattice Cloth Buy.

Your Best Brattice Buy

**ABC**  
**BRATTICE**  
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AMERICAN BRATTICE CLOTH CORP.

President; and R. R. Kelbe, Vice President. For many years Adams was district manager for a leading construction equipment manufacturer.

E. A. Butler and R. A. Sparks, who have been in the construction business in Oklahoma for many years, bought out another distributor and formed the Butler-Sparks firm in June, 1951. Butler is President and Sparks is Sales Manager. The firm operates a branch in Tulsa which is headed by C. J. (Jack) White, former equipment superintendent with the U. S. Army Engineers.

• A method for making a relatively heavy crude oil out of coal while it is still underground and in the seam and then pumping it up for further refining into suitable motor fuels has been invented by Ernest F. Pevero, Beacon, and George B. Arnold, Glenham, N. Y., and assigned to the Texas Company. It received patent number 2,595,979.

A well hole is drilled into the coal seam. Through this a hydrogenating agent is introduced and the resulting oil drawn off. Heat to set off the process may be supplied by an electric heater, the inventors say.

This process, they claim, cuts out two costly steps in the preparation of coal for hydrokenation, first actual mining of the coal, and then, the fine grinding of the coal to obtain a powder.





Closeup view of Caterpillar D18 Tractor pushing overburden at operation of Tony Romaine near Patoka, West Virginia.

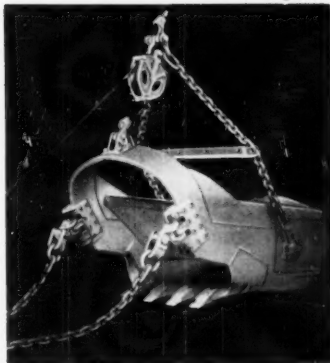
● A computer in a torpedo which figures out the course and speed of a target ship and corrects the torpedo's course to correspond has received a patent here.

The "course interception navigational computer" receives information from the submarine at random intervals. It is designed to cooperate with equipment on the submarine, such as the periscope, radar, sonar and the speedometer and compass. It includes a position keeper, which pro-

vides data with respect to the estimated position of the target vessel.

A group of angle solvers continuously compute the proper angle of the torpedo gyroscopes on the basis of information obtained from the position keeper.

The computer was invented by William K. Ergen, Oak Ridge, Tenn., who assigned his patent, number 2,600,159, to the Radio Corporation of America. It was one of 849 inventions granted patents this week.



## Page Improved Automatic Dragline Buckets

♦ ♦

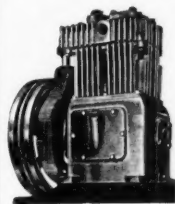
Repairs for ALL Page  
Dragline Buckets

♦ ♦

## McCLURE EQUIPMENT CO.

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Quincy Air Compressors

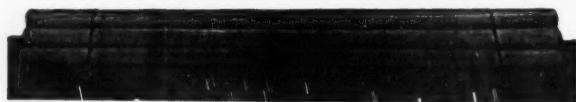
PUMPS • MACHINERY • SHOP EQUIPMENT



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MANUFACTURING COMPANY

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### WOOD TAMPING POLES

For Tamping Explosive Shots: Poles are round made of Hardwood. Sizes to 10 ft. long.

1" Dia.	8c per lineal ft.
1 1/8" Dia.	12c per lineal ft.
1 1/4" Dia.	14c per lineal ft.
1 1/2" Dia.	16c per lineal ft.
1 3/4" Dia.	18c per lineal ft.
2" Dia.	28c per lineal ft.
2 1/2" Dia.	32c per lineal ft.

Special diameters and lengths can be furnished. These Poles meet the requirements of the New Federal Mine Safety Code.

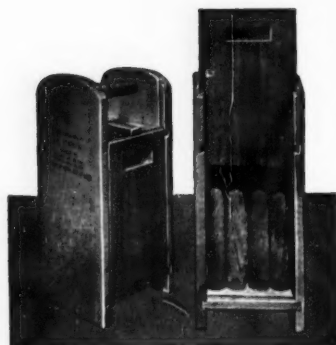


### SECTIONAL TAMPING POLES

These Poles are made of straight grained wood and are coupled together with removable wood pins held in place in recessed grooves by a rubber band and can be quickly connected and unconnected.

Couplers and Head Blocks are 4, 5, and 6 inches in diameter. Please specify size when ordering. Poles are 1 1/2 inches in diameter.

Head Blocks	4" Dia.	\$3.70 Ea.
Couplers	4" Dia.	3.90 Ea.
Poles	12 ft. long 1 1/2" Dia.	3.60 Ea.
Poles	14 ft. long 1 1/2" Dia.	4.20 Ea.
Poles	16 ft. long 1 1/2" Dia.	4.80 Ea.
Poles	18 ft. long 1 1/2" Dia.	6.30 Ea.
Poles	20 ft. long 1 1/2" Dia.	7.00 Ea.
Poles	22 ft. long 1 1/2" Dia.	8.80 Ea.
Poles	24 ft. long 1 1/2" Dia.	9.60 Ea.



**EXPLOSIVE BOXES:** Made entirely of wood having no metal parts, tongue grooved and dovetailed construction with automatic lock using a rubber band for a spring, treated with paraffin to make moisture resistant. "Approved by the Pennsylvania Department of Mines." Sizes as listed based on 1 1/4" x 8" sticks.

### Powder Box Prices are as follows:

No. 9 Powder Box	\$2.55 Ea.	No. 25 Powder Box	\$5.10 Ea.
No. 12 Powder Box	2.95 Ea.	No. 36 Powder Box	6.50 Ea.
No. 16 Powder Box	3.45 Ea.	No. 50 Powder Box	7.60 Ea.
No. 20 Powder Box	3.90 Ea.	No. 72 Powder Box	8.70 Ea.

### Detonator Box Prices are as follows:

No. 6 size 2 1/2" x 8" x 6" inside	\$2.16 Ea.	No. 8 size 2" x 2 1/2" x 8" inside	\$2.16 Ea.
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## J. V. Hammond Company Spangler, Pennsylvania

• Appointment of Jack W. Kiddy as east-central district manager for the Davey Compressor Co., Kent, Ohio, is announced by J. T. Myers, Vice President.

Mr. Kiddy will be in charge of company operations in northern Ohio, Michigan (except the northern peninsula), western New York, northwestern Pennsylvania, and the Province of Ontario, Canada. His headquarters will be in Kent.



A graduate of Kent State University, Kent, Ohio, Mr. Kiddy has been associated with the company for three years as a member of the headquarters staff.

• A new one and two quart Vaporizing Liquid fire extinguisher designated as the Pressurized Model B has been announced by The Fyr-Fyter Company of Dayton, Ohio.

It features fast, one-hand operation with accurate control. Aim, squeeze the grip . . . and a powerful 30-foot fire-fighting stream is instantly released. The elimination of pumping or any other manual operation, enables the operator to aim a direct, on-target stream. The vaporizing liquid is completely discharged in 17 to 25 seconds by the positive force of odorless, non-toxic, moisture-free, pressurized nitrogen.

The extinguisher is made with all-brass precision construction. To simplify inspection, cleaning and recharging, the entire valve assembly and pick-up tube unscrew as a unit from the shell. The large valve unit opening in the dome also serves as the "filler" opening. Special gaskets that resist extremes in temperature, corrosion, and solvents assure a positive, leakproof

seal to hold the pressure charge. A visual gage constantly shows the pressure condition. Effective extinguishing action is possible from any angle.

It is approved by Underwriters' Laboratories and is recommended



for use on burning liquids, live electrical fires, and also small general combustion fires.

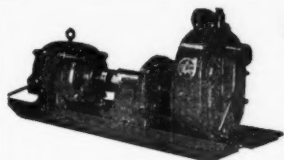
Address: The Fyr-Fyter Company, 221 Crane Street, Dayton, Ohio.

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Motors 220/440 v. or 2500 v.—3 hp., 60 cy.

No.	KW	Make	RPM
3	250	Westinghouse	1200
1	200	Westinghouse	720
2	200	Westinghouse	1200
1	100	Westinghouse	700
1	100	General Electric	900
1	100	Westinghouse	600
1	100	General Electric	1800
1	100	Reliance	580
1	100	Delco	1200
2	90	Westinghouse	680
4	75	Westinghouse	720
1	75	Westinghouse	1200
1	60	Westinghouse	1200
1 NEW	50	General Electric	1800
3	40	Westinghouse	900
2	30	Westinghouse	720

125 V. DC M.G. Sets  
1—100 kw. C.E. 125 v. 900 rpm. 220/440 v.  
3 ph. 60 cy. AC Syn.  
1—125 kw. G.E. 125 v. 1200 rpm. 220/440 v.  
3 ph. 60 cy. AC.  
1—75 kw. West. 125 v. 1200 rpm. 220/440 v.  
3 ph. 60 cy.

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1	175	G.E.	700
3 NEW	135	G.E.	1150
1	125	West.	860
1	125	Allis-Chal.	1150
1	110	West.	700
1	100	Allis-Chal.	1150
1	75	West.	750
1	40	G.E.	720

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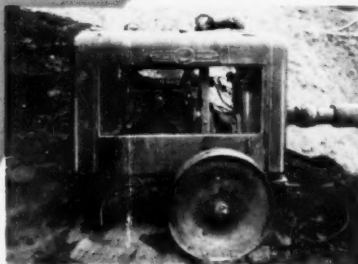
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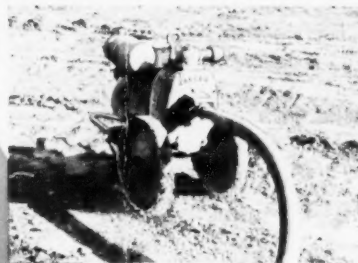
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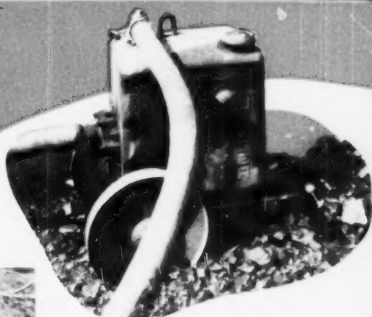


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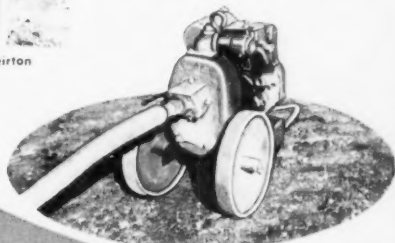
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